IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re PATENT APPLICATION of

PIRHONEN et al.

Confirmation No. **8724**

Appln. No.: **09/066,359**

Group Art Unit: **2663**

Filed: **August 18, 1998**

Examiner: **T. Nguyen**

FOR: **DATA TRANSMISSION METHOD**

*   *   *   *   *

June 14, 2002

REQUEST FOR RECONSIDERATION

Hon. Commissioner of Patents
Washington, D.C. 20231

Sir:

In response to the Office Action dated January 16, 2002, the following remarks are made. The initial statutory period for response expired on April 16, 2002, so included herewith is a Petition for the Extension of Time for two months and requisite fee, thereby increasing the time for responding to June 16, 2002. See 37 C.F.R §1.7.

Reconsideration and allowance of this application in view of the following remarks are respectfully requested. Claims 1-18 are currently pending in this application.

Applicants appreciate the indication in the Office Action that the subject matter of claim 2 is allowable. However, Applicants delay rewriting claim 2 in independent form so that the Examiner may reconsider the patentability of independent claim 1.

Claim 1 was rejected under 35 U.S.C. § 103 (a) over Tzukerman et al. (U.S. Patent No. 5,438,590; hereafter "Tzukerman") in view of Seshardi et al. (U.S. Patent Number 5,208,816; hereafter "Seshardi") and further in view of Malkamäki et al. (U.S. Patent No. 5, 563,895; hereafter "Malkamäki"). Claims 3 and 9-11 were rejected under 35 U.S.C. § 103 (a) over Tzukerman in view of Seshardi and Malkamäki and further in view of Anno et al.

(EP0660558A2; hereafter "Anno"). Claim 4 was rejected under 35 U.S.C. § 103 (a) over Tzukerman et al. in view of Seshardi et al. and Malkamäki et al. and further in view of Kuroda et al. (U.S. Patent No. 5,432,800; hereafter "Kuroda"). Claims 5-6, 8 and 17-18 were rejected under 35 U.S.C. § 103 (a) over Tzukerman et al. in view of Seshardi et al.; Malkamäki et al.; Anno et al. and further in view of Bach et al. (U.S. Patent No. 5,475,686; hereafter "Bach"). Claim 7 was rejected under 35 U.S.C. § 103 (a) over Tzukerman et al. in view of Seshardi et al.; Malkamäki et al.; Anno et al.; Bach et al. and further in view of Kuroda et al. Finally, claims 12-16 were rejected under 35 U.S.C. § 103 (a) over Tzukerman et al. in view of Seshardi et al.; Malkamäki et al.; Anno et al. and further in view of Kuroda et al.

Applicants respectfully traverse every rejection because (1) the applied combinations of (a) Tzukerman, Seshardi and Malkamäki; (b) Tzukerman, Seshardi, Malkamäki and Anno; (c) Tzukerman, Seshardi, Malkamäki and Kuroda; (d) Tzukerman, Seshardi, Malkamäki, Anno and Bach; (e) Tzukerman, Seshardi, Malkamäki, Anno, Bach and Kuroda; and (f) Tzukerman, Seshardi, Malkamäki, Anno and Kuroda, do not teach or suggest every feature recited in the rejected claims and (2) one of ordinary skill in the art would not have combined the references as speculated in the Office Action.

For example, none of the references, whether analyzed alone or in combination, teach or suggest a data transmission method comprising, among other elements, grouping bits to be transmitted in blocks having the minimum size of 288 bits or 290 bits, as recited in independent claims 1 and 3, respectively. Further, none of the references, whether analyzed alone or in combination, teach or suggest a data transmission method comprising, among other elements, puncturing the bits obtained by deleting bits from each block so that blocks containing no more than 456 bits will be obtained, as recited in independent claim 1, or puncturing the coded bits obtained by deleting 132 bits from each block, as recited in

independent claim 3.

Tzukerman merely teaches punctured convolutional encoding and decoding involving puncturing a <u>data stream</u> (see column 9, line 68 to column 10, line 5). Specifically, Tzukerman punctures a data stream but does not puncture or use data blocks of a finite size, e.g. 456 bits or 588 bits. Therefore, Tzukerman does not teach or suggest puncturing the bits obtained by deleting bits from each data block so that the data blocks obtained will contain no more than 456 bits, as recited in independent claim 1, or puncturing the coded bits obtained by deleting 132 bits from each block, as recited in independent claim 3. Additionally, Tzukerman does not teach or suggest grouping bits to be transmitted in blocks having a minimum size of 288 bits, as recited in independent claim 1, or having a size of 290 bits, as recited in independent claim 3.

The Office Action relied on Malkamäki to remedy the deficiencies of Tzukerman. However, Malkamäki merely teaches a data block having a size of 456 bits, and failed to remedy the deficiencies of Tzukerman because Malkamäki fails to teach or suggest puncturing the bits obtained by deleting bits from each block so that blocks containing no more than 456 bits will be obtained, as recited in independent claim 1. Malkamäki also fails to teach or suggest puncturing the coded bits obtained by deleting 132 bits from each block, as recited in independent claim 3.

For example, Malkamäki teaches to increase the data block size by convolutional coding through increasing redundancy, but does not disclose any form of puncturing. Malkamäki does not perform a puncturing operation to reduce the number of bits in each data block, but rather teaches increasing the data block size. Therefore, Malkamäki does not teach or suggest puncturing the bits, as recited in independent claim 1 or puncturing the coded bits, as recited in independent claim 3.

Neither Seshardi, Anno, Kuroda nor Bach, whether analyzed alone or in combination,

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teach or suggest puncturing the bits, as recited in independent claim 1 or puncturing the coded bits, as recited in independent claim 3. As such, the combination of one or more of Seshardi, Anno, Kuroda and Bach would not remedy the deficiencies of the applied combination of Tzukerman and Malkamäki.

The Office Action recognized that the applied combination of Tzukerman and Malkamäki does not disclose, teach or suggest grouping bits to be transmitted in blocks having a minimum size of 288 bits, as recited in independent claim 1, or blocks having a size of 290 bits, as recited in independent claim 3. The Office Action relied on Seshardi to teach these features, however, Seshardi does not disclose, teach, or suggest blocks of this size. One skilled in the art would have no motivation or suggestion to modify Seshardi to obtain blocks having a minimum size of 288 bits, as recited in claim 1, or blocks having a size of 290 bits, as recited in claim 3. Therefore, the combined teachings of Tzukerman Seshardi and Malkamäki fail to teach or suggest a data transmission method comprising, among other elements, grouping bits to be transmitted in blocks having the minimum size of 288 bits, as recited in independent claim 1 or grouping bits to be transmitted into blocks having a size of 290 bits, as recited in independent claim 3.

For the reasons set forth above, the applied combination of Tzukerman, Seshardi and Malkamäki does not teach or suggest all of the features of independent claim 1 and independent claim 3 (and its dependent claims 9-11).

Further, Anno would not remedy the deficiencies of the applied combination of Tzukerman, Seshardi and Malkamäki because Anno fails to teach or suggest blocks having a minimum size of 288 bits, as recited in claim 1, or blocks having a size of 290 bits, as recited in claim 3. Thus, the applied combination of Tzukerman, Seshardi, Malkamäki and Anno does not teach or suggest all of the features of independent claim 1 and independent claim 3 (and its dependent claims 9-11).

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Neither Kuroda nor Bach, whether analyzed alone or in combination, would remedy the deficiencies of the applied combination of Tzukerman, Seshardi and Malkamäki or of Tzukerman, Seshardi, Malkamäki and Anno because Kuroda and Bach do not teach or suggest blocks having a minimum size of 288 bits, as recited in claim 1, or blocks having a size of 290 bits, as recited in claim 3. As such, the applied combinations of Tzukerman, Seshardi, Malkamäki and Kuroda and/or Bach or of Tzukerman, Seshardi, Malkamäki, Anno, Kuroda and/or Bach or of Tzukerman, Seshardi, Malkamäki, Anno, Kuroda and Bach do not teach or suggest all of the features of independent claim 1 (and its dependent claims 2 and 4-18) and independent claim 3 (and its dependent claims 4-18).

Accordingly, independent claim 1 (and its dependent claims 2 and 4-18) and independent claim 3 (and its dependent claims 4-18) are allowable and reconsideration and withdrawal of the rejection are respectfully requested.

The combined teachings of the applied references fail to teach or suggest every feature recited in the claimed invention.

To establish the *prima facie* case of obviousness, all claim limitations must be taught or suggested by the prior art and there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill on the art, to modify the references or to combine reference teachings. Applicants further traverse each rejection because there is no suggestion or motivation to modify the applied references or to combine their teachings.

As explained above, the Office Action speculated that one of ordinary skill in the art would have been motivated to combine the teachings of Tzukerman, Malkamäki and Seshardi for better signal transmission. However, Applicants traverse the rejection of claims 1, 3 and 9-11 because one of ordinary skill in the art would not have been motivated to modify the

teachings of Tzukerman in accordance with Malkamäki and further in accordance with Seshardi. The Office Action's identified motivation to combine is merely a product of impermissible hindsight analysis.

There is no motivation or suggestion to combine the digital mobile radio communication system of Malkamäki with the punctured convolutional encoding and decoding apparatus and method of Tzukerman and the generalized Viterbi encoding algorithms of Seshardi. Malkamäki merely teaches how to decrease delays and error protection, whereas the combination of Tzukerman and Seshardi is cited in the Office Action for improving transmission. Nevertheless, there is no mention of the possibility or effect of combining such technologies in any of the references, nor would one skilled in the art be motivated to do so.

Anno is merely directed to an interleaving method, but there is no mention of the possibility or effect of combining this interleaving method with the technologies in Tzukerman, Malkamäki and Seshardi, nor would one skilled in the art be motivated to do so.

Therefore, there is not sufficient motivation or suggestion to modify the teachings of Tzukerman with the teachings of Malkamäki and Seshardi or with the teachings of Malkamäki, Seshardi and Anno to support a valid rejection under 35 U.S.C. § 103.
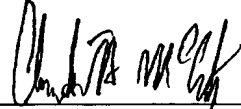
Thus, independent claim 1 (and its dependent claims 2 and 4-18) and independent claim 3 (and its dependent claims 4-18) are allowable and reconsideration and withdrawal of the rejection are respectfully requested.

For at least the foregoing reasons, the Applicants submit that the claims are in condition for allowance. Timely notice to that effect is therefore respectfully requested.

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Should the Examiner believe that anything further is desirable to place the application in better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

2663

PATENT APPLICATION

#12

Inventor(s):	PIRHONEN et al.		Group Art Unit	63
Appln. No.:	09	066,359	Examiner:	T. Nguyen
			Atty. Dkt.	P 252337	T295050/42842 /BR/LHT

Series Code ↑   Serial No. ↑   M#   Client Ref

Filed: August 18, 1998

Appln. Title: DATA TRANSMISSION METHOD

Hon. Commissioner of Patents
Washington, D.C. 20231

Sir:

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JUN 1 4 2002
PATENT & TRADEMARK OFFICE

RECEIVED
JUN 2 4 2002
Technology Center 2600

REPLY/AMENDMENT/LETTER

Date: June 14, 2002

This is a reply/amendment/letter in the above-identified application and includes the herewith attachment of same date and subject which is incorporated hereinto by reference and the signature below is treated as the signature to the attachment in absence of a signature thereto.

FEE REQUIREMENTS FOR CLAIMS AS AMENDED

1. Small Entity claim			
A. ☐ NOT made	For B & C		
B. ☐ Withdrawn	See Required		
C. ☐ made herewith	Separate Paper		
D. ☐ made previously	(Pat-256)		

	Claims remaining after amendment	Highest number previously paid for		Present Extra	Large/Small Entity	Additional Fee	Fee Code Lg/Sm
2. Total Effective Claims	33	**minus	33		x $18/$9 =	+ $0	103/203
3. Independent Claims	2	***minus	3	0	x $84/$42 =	+ $0	102/202
4. If amendment enters proper multiple dependent claim(s) into this application for first time (leave blank if this is a reissue application) .... add					+ $280/$140 =	+ $0	104/204
5. Original due Date: April 16, 2002 ☐ NONE							
6. Petition is hereby made to extend the original due date to cover the date this response is filed for which the requisite fee is attached (1 mo) (2 mos) (3 mos) (Usable only for ≤ 2mo.OA - - - 4 mos) (Usable only for 30 day/1mo.OA - - - 5 mos)				$110/$55 = $400/$200 = $920/$460 = $1,440/$720= $1,960/$980=	+ $400		115/215 116/216 117/217 118/218 128/228
7. Enter any previous extension fee paid since above original due date and subtract					- $0		
8.					Extension Fee	+ $400	
9. If Terminal Disclaimer attached, add Rule 20(d) official fee					+ $110/$55	+ $0	148/248
10. If IDS attached requires Official Fee under Rule 97 (c), ... add or if Rule 97(d) Request .... add					+ $130 + $180	+ $0	126 126
11. After-Final Request Fee per rules 129(a) and 17(r)					+ $740/370	+ $0	146/246
12. No. of additional inventions for examination per Rule 129(b)					x $740/370 ea	+ $0	149/249
13. Request for Continued Examination (RCE)					+ $740/370	+ $0	1179/1279
14. Petition fee for						+ $0	
15.					TOTAL FEE =	$400 PLEASE CHARGE OUR DEP. ACCT.	

16. *If the entry in this space is less than entry in next space, the "Present Extra" result is "0".
17. **If the "Highest number previously paid for" in this space is less than 20, write "20" in this space.
18. ***If the "Highest number previously paid for" in this space is less than 3, write "3" in this space.

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Our Deposit Account No. 03-3975)
(Our Order No.   60256 | 252337
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CHARGE STATEMENT: The Commissioner is hereby authorized to charge any fee specifically authorized hereafter, or any missing or insufficient fee(s) filed, or asserted to be filed, or which should have been filed herewith or concerning any paper filed hereafter, and which may be required under Rules 16-18 (missing or insufficiencies only) now or hereafter relative to this application and the resulting Official Document under Rule 20, or credit any overpayment, to our Accounting/Order Nos. shown above, for which purpose a duplicate copy of this sheet is attached.

This CHARGE STATEMENT does not authorize charge of the issue fee until/unless an issue fee transmittal sheet is filed.

Query: Is appeal deadline now? If so, file Notice of Appeals separately.

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